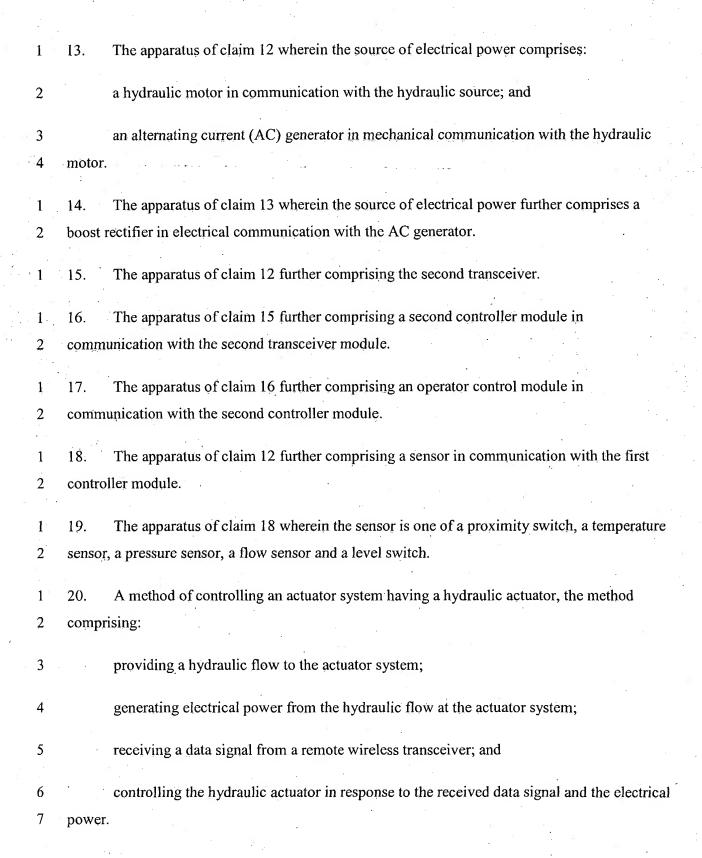
CLAIMS

- 1 1. An apparatus for controlling an actuator system, the actuator system having an electrical
- 2 actuator in hydraulic communication with a hydraulic actuator and a hydraulic source, the
- 3 apparatus comprising:
- 4 a source of electrical power;
- a controller module in electrical communication with the source of electrical power to
- 6 receive power therefrom and in electrical communication with the electrical actuator; and
- a transceiver in communication with the controller module, the transceiver adapted for
- 8 wireless communication with a remote transceiver, the wireless communication including
- 9 transfer of control data and feedback data with the remote transceiver, the controller module
- sending a control signal to the electrical actuator in response to control data received from the
- 11 remote transceiver.
- 1 2. The apparatus of claim 1 further comprising the remote transceiver.
- 1 3. The apparatus of claim 1 wherein the source of electrical power comprises:
- a hydraulic motor in communication with the hydraulic source; and
- an alternating current (AC) generator in mechanical communication with the hydraulic
- 4 motor.
- 1 4. The apparatus of claim 3 wherein the source of electrical power further comprises a boost
- 2 rectifier in electrical communication with the AC generator.
- 1 5. The apparatus of claim 2 further comprising a remote controller module in
- 2 communication with the remote transceiver.

T	o. The apparatus of claim 5 further comprising an operator control module in
2	communication with the remote controller module.
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1	7. The apparatus of claim 1 wherein the controller module comprises a digital signal
2	processor.
1	8. The apparatus of claim 1 further comprising a sensor in communication with the
2	controller module.
1	9. The apparatus of claim 8 wherein the sensor comprises one of a proximity switch, a
2	temperature sensor, a pressure sensor, a flow sensor and a level switch.
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1	10. The apparatus of claim 1 further comprising the electrical actuator.
1	11. The apparatus of claim 10 wherein the electrical actuator is a solenoid valve.
	11. The apparatus of claim 10 wherein the electron actuator is a solehold varve.
1	12. An apparatus for controlling the operation of an actuator system of a top drive, the
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3	
4	through a rotary seal, the apparatus comprising:
5	a source of electrical power;
6	
7	the electrical actuator; and
8	a first transceiver configured for communication with a second transceiver
9	through a wireless communication link to transfer control data and feedback data, the first
10	
11	control data.



- 1 21. The method of claim 20 wherein the received data signal comprises control data.
- 1 22. The method of claim 20 further comprising transmitting a data signal from the actuator
- 2 system to the remote wireless transceiver.
- 1 23. The method of claim 22 wherein the transmitted data signal comprises sensor data.
- 1 24. The method of claim 23 wherein the sensor data is indicative of at least one of actuator
- 2 speed, hydraulic flow rate, temperature, position and component binary state.
- 1 25. An apparatus for controlling a hydraulic actuator, the apparatus comprising:
- 2 means for converting hydraulic flow to electrical power;
- means for receiving control data from a remote transmitter over a wireless link;
- 4 means for generating an electrical control signal in response to the electrical power and
- 5 the received control data; and
- 6 means for operating the hydraulic actuator responsive to the electrical control signal.
- 1 26. The apparatus of claim 25 further comprising means for transmitting sensor data to the
- 2 remote transmitter over the wireless link.